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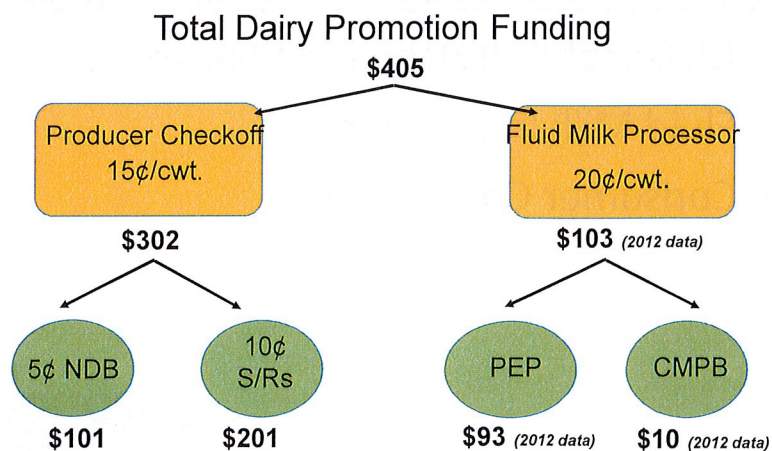


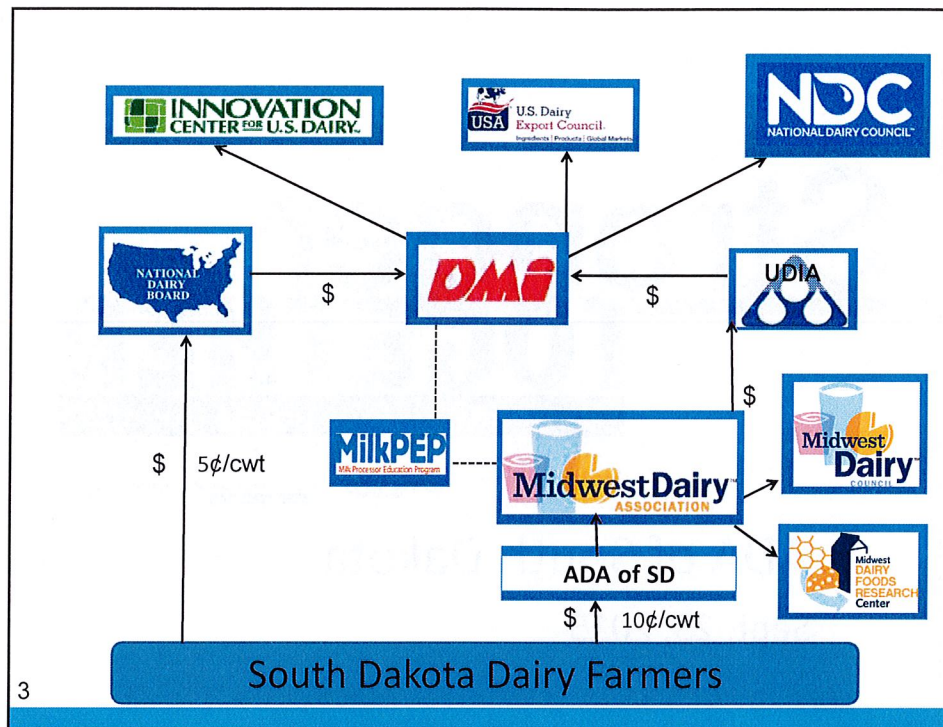
ADA of South Dakota

Sept. 23, 2015

Dairy Promotion Funding

(2014\$ in millions)





DMI Report – Allen Merrill

Sept. 15–17 DMI Board Meeting Highlights

- McDonald's Butter and Cheese
- Fluid Milk Innovation
- Consumer Confidence

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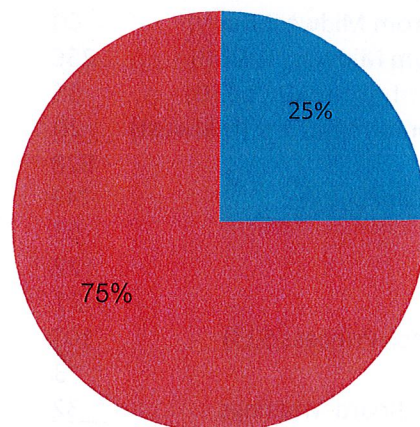
Dairy Checkoff's Work in South Dakota



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South Dakota's Checkoff Value

2014 Total Production: 2,209 M lbs.



- Consumption within SD: 524 M lbs. *
- Consumption outside of SD: 1,585 lbs.

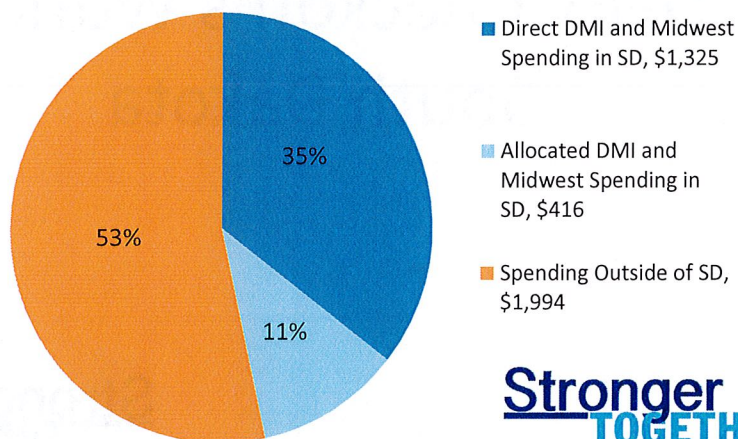
* SD population 853K
 x per capita consumption 614
 = milk consumed in state 524M lbs.



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South Dakota's Checkoff Value

Total 15 Cent Checkoff: \$3,735 K



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South Dakota's Checkoff Value

Direct Spending in South Dakota from DMI and Midwest (\$000)

• Research:	
– 2015 Projects (from DMI)	\$457
– Annual Dairy Research (from Midwest Dairy)	60
– IDIP & Appl. Scientist (from Midwest & DMI)	256
– IDIP Specialized Equipment (from ADA of SD)	35
– Technical Evaluation/Literature Review (Midwest)	20
Subtotal Research	828
• Dedicated SD Staff (Roger & Whitney)	243
• Fuel Up to Play 60	63
• Nutrition Affairs	22
• Consumer Confidence	27
• Division Market Programs (incl. Princess \$23)	107
• Business Development	3
• Producer Communications & Board Meetings	32
Total Direct Spending in South Dakota	<u>\$1,325</u>

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South Dakota's Checkoff Value

Allocated Spending in South Dakota from DMI and Midwest (\$000)

- Midwest Dairy Staff, including Business Development, Integrated Communications, Leadership, Supervisory & Support Staff \$ 92
 - National Dairy Board (5¢) for development of UMP programs – SD portion based on .27% of U.S. population 268
 - Dairy Management, Inc. (2.5¢) for development of UMP programs – SD portion based on .27% of U.S. population 55
- \$415
- Total Indirect Spending in South Dakota

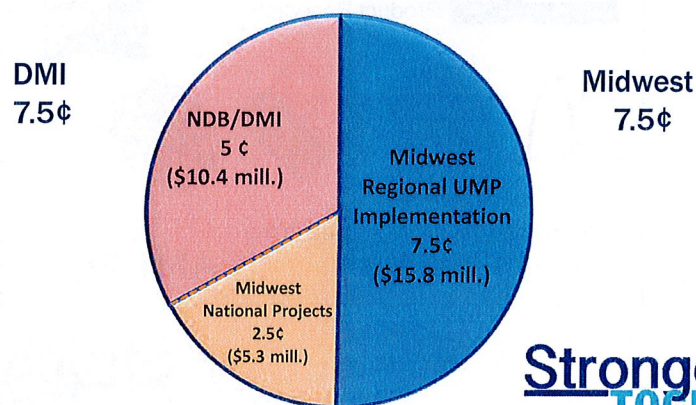
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Midwest Dairy 15¢ Allocation

(2016 will be similar to 2015)

\$31.5M



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Dairy's National Investment (5¢ helps to fund these)



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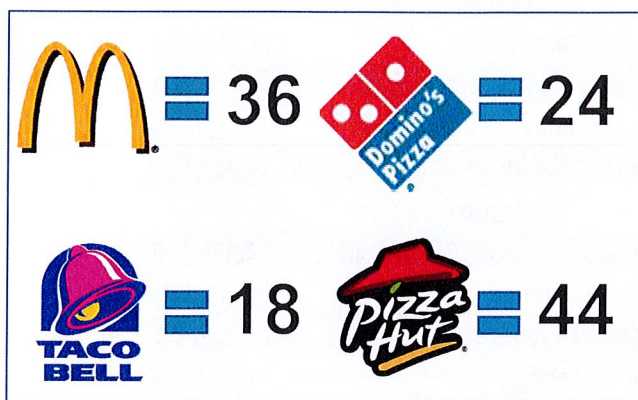
Midwest's National Projects (2.5¢ helps to fund these)



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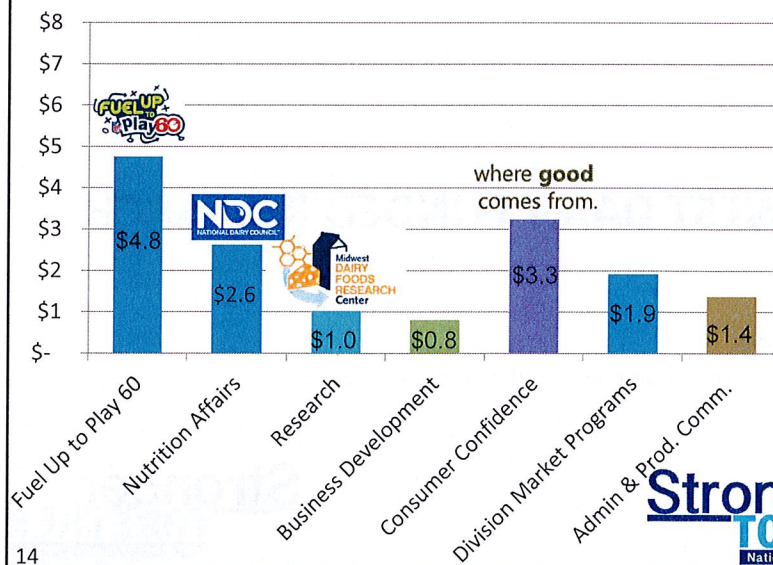
QSR's in South Dakota



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Midwest's Regional UMP Implementation \$15.8 mill.



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ADA of South Dakota 2016 Preliminary Budget

<u>Revenue</u>	
Checkoff Receipts	\$2,490,000
Interest	2,500
Misc. Revenue	25
Total Revenue	<u>2,492,525</u>
<u>Expenses</u>	
Contract – Midwest Dairy Assn.	2,455,000
SDSU Foundation	35,000
State Dept. Charges	2,400
Board Meetings	550
Total Expenses	<u>2,492,950</u>
Excess of Rev. over Exp.	<u>\$(425)</u>

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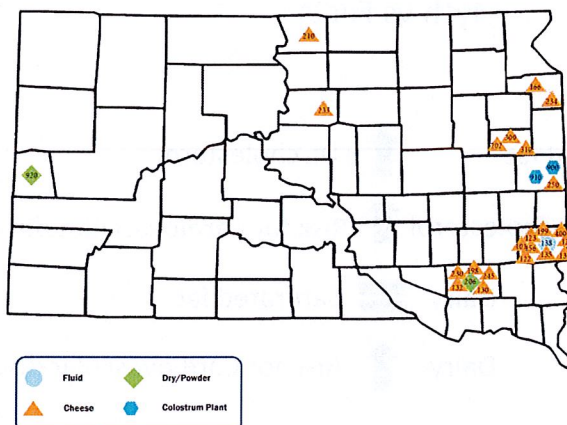
MIDWEST DAIRY FUNDED RESEARCH

Mary Wilcox,
VP Business Development-Manufacturing & Research

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South Dakota Product Processing

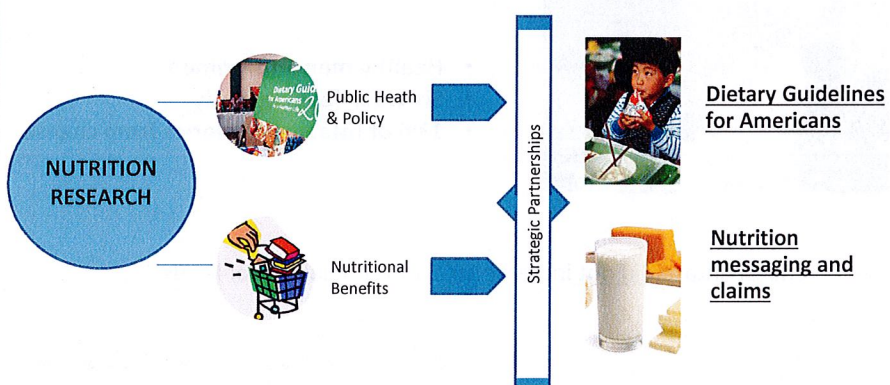


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Nutrition Research



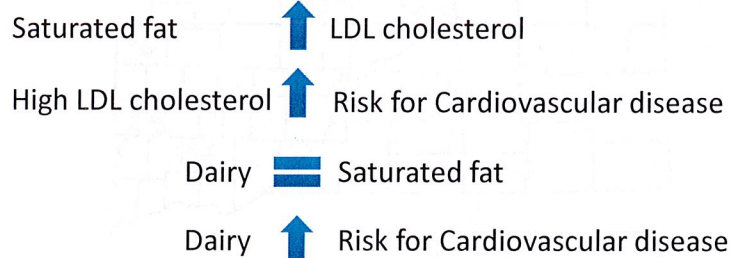
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Heart disease

Myth vs Facts



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Midwest/NDC Cheese Feeding Study



- Healthy men and women
- Six week feeding study
- 13% of total daily calories from cheese

Cheese intake did not increase total or LDL cholesterol levels

Hjerpsted et al. *Am J Clin Nutr* 94:1479-1484, 2011

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Dairy Research Consortium Cheese Study

International Dairy Organizations



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Diets Rich in Cheese Maintain a Higher HDL Cholesterol

- Overweight women
- Two-week feeding study
- 3-plus serving of cheese per day
- Low-fat (carbohydrate) control



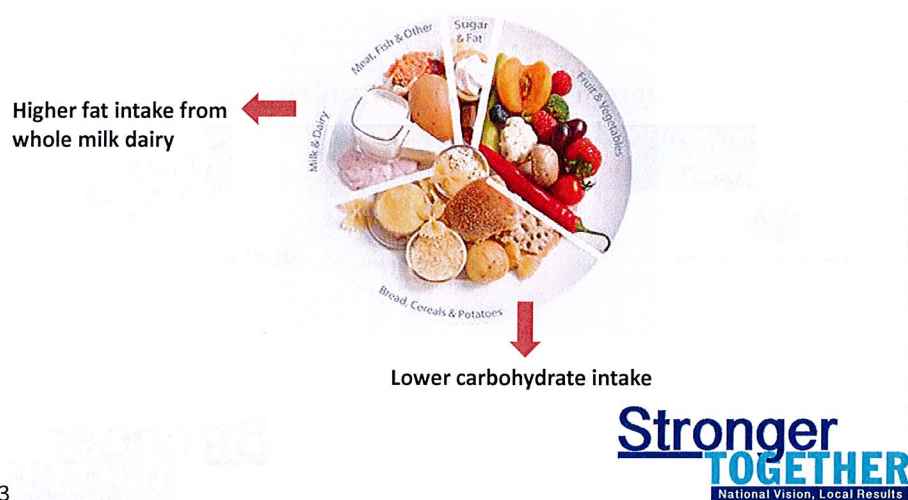
LDL cholesterol levels decreased on both diets;
HDL cholesterol maintained a higher level on the cheese diet.

Thorning et al. *Am J Clin Nutr* on-line ahead of print; July 15, 2015

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Could a Modified DASH Diet Improve More Risk Factors for Cardiovascular Disease?



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Preliminary Results

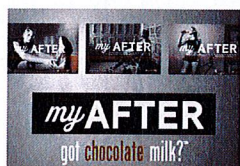
	Standard Diet	vs.	DASH	vs.	Modified DASH
Blood Pressure			↓		↓
LDL cholesterol			↓		↓
HDL cholesterol			↓		↑
Triglycerides			↔		↓
Total/HDL cholesterol			↔		↓

*Bottom line: **All** dairy foods, regardless of fat content can fit into healthy dietary patterns like DASH*

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Promote Nutritional Benefits



Muscle recovery & function



Dairy protein quality



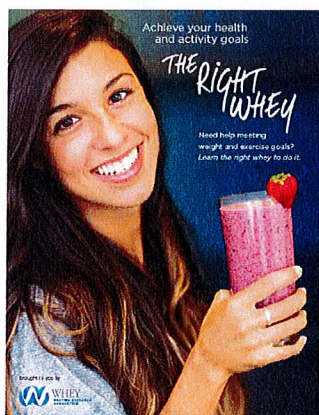
Mental energy & cognition

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Whey Protein Research Consortium

www.wheyconsortium.org



- Tools created for consumers & health professionals
- Highlights benefits of whey protein
- Includes tips on incorporating whey into diet & lifestyle
- Future clinical research on aging

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NDC
NATIONAL DAIRY COUNCIL™

Product Research

Applications & Technical Support

Fluid Milk Revitalization

Milk, whey, value added ingredients and co-products

Milk Powders

Food Safety and Cheese

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NDC
NATIONAL DAIRY COUNCIL™

National Dairy Foods Center Program

• Western Dairy Center

• California Dairy Research Center

• California Polytechnic State University

• Utah State

• Midwest Dairy Food Research Center

• University of Minnesota

• South Dakota State University

• Iowa State University

• University of Wisconsin Madison

• Wisconsin Center for Dairy Research

• Northeast Dairy Foods Research Center

• Cornell University

• Southeast Dairy Foods Research Center

• North Carolina State University

• Mississippi State University

Affiliated Universities:

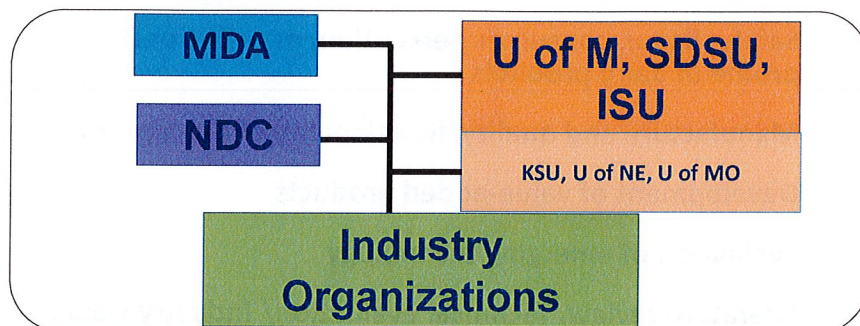
- Midwest Dairy Center
- Kansas State University
- University of Missouri
- University of Nebraska
- Western Dairy Center
- Brigham Young University
- Oregon State University
- Weber State University
- University of Iowa
- University of Washington

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Background Midwest Dairy Center

- ◆ Three way partnership among the Universities, dairy promotion and research organizations, and industry organizations



- ◆ Operational Advisory Committee (OAC)
Recommends overall policies, goals and determines research strategies

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2015 Industry Contributors

Nutricepts	Land O' Lakes, Inc.
Davisco, Business unit of Agropur	North Central Cheese Industries
Kraft Foods, Inc.	Valley Queen Cheese Factory
Grande Cheese Co.	Danisco USA
Agropur Ingredients	Wells Blue Bunny
Schreiber Foods, Inc	Narasimmon Consulting
Swiss Valley Farms	Advanced Food Products
Hormel Foods, Inc	First District Association
Milk Specialties Global	Saputo Dairy Foods
General Mills	Nestle USA
Dairy Farmers of America	AMPI
Perten Instruments	Stronger TOGETHER National Vision, Local Results
Sargento Foods	Darigold
TetraPak	

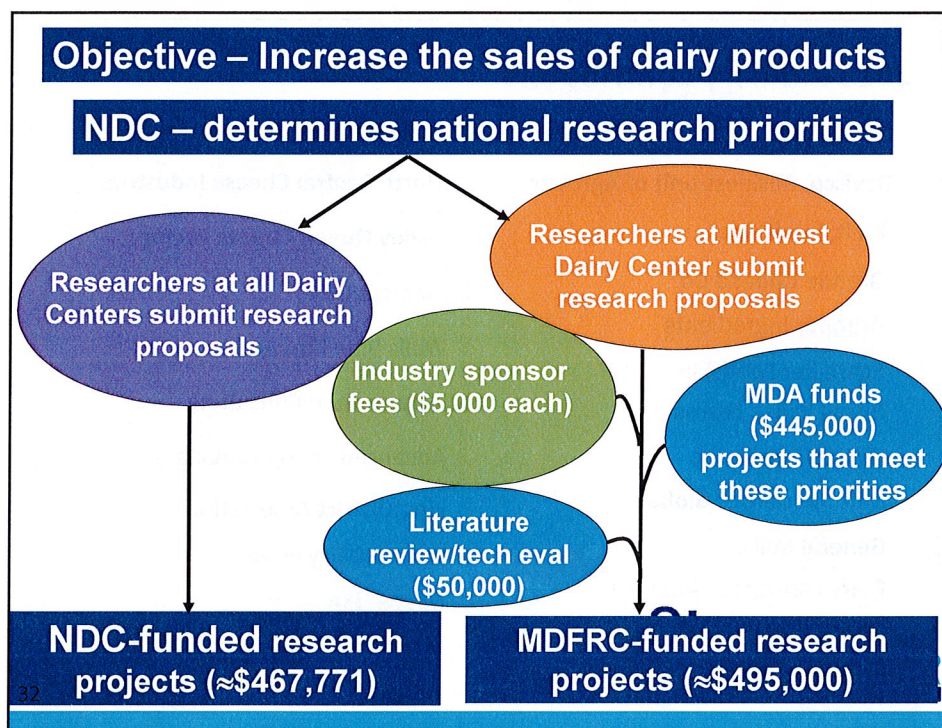
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Focus of Midwest Dairy Foods Research Center

- Development of analytical tools and testing methods
- Safety, flavor, consumer perception, or nutritional profile of dairy products
- Manufacture and quality/functionality of dairy products
- Development of value-added products
- Evaluation of emerging technology
- Literature review/Technical evaluation/ Industry training

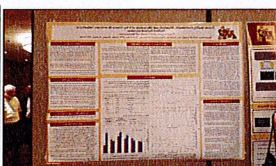
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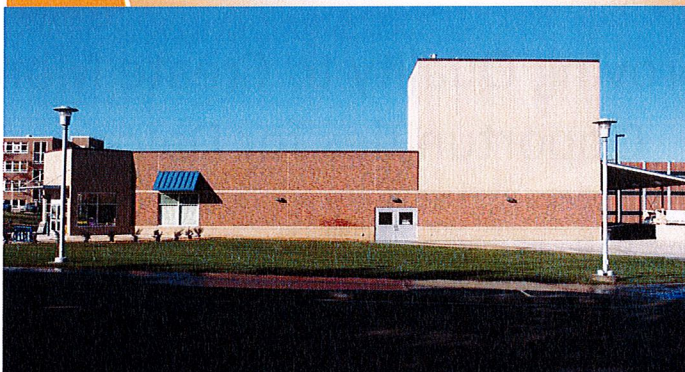
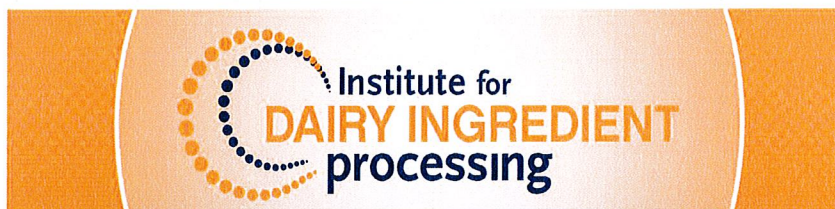


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Midwest Dairy Foods Research Center



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Application Lab

Davis Dairy plant

Analytical services

Applications Lab Funding (≈\$256,399)
4 Staff for Processing/Applications

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Recent Successes



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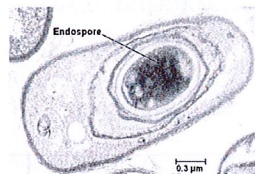
Improving Quality to Create More Opportunities for Dairy



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Spores: Why do we care?

- Spores can remain viable in product after pasteurization and/or refrigeration
- Long lasting impact on flavor, shelf life, quality and safety of dairy products and ingredients
- Buying specifications are becoming more stringent



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Spore Research Enables Industry To Be More Competitive

Areas of Work
On-farm practices
Production practices
Cleaning practices
Biofilm prevention
Process technology to eliminate spores
Faster spore detection
Global testing procedures

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Transfer & Adoption:

Marketplace Accomplishments

- More consistent production and sales of higher quality product
- Improved quality across products: milk protein concentrate, whole and skim milk powders, whey powders, cheese and fluid milk manufacturing
- Conducted Research Forum and Seminars on Spores

Manufacturer Success Stories

- Nonfat dry milk producer consistently meets export quality requirements, where customer realized \$15M in incremental sales
- Cheese producer increased annual production capacity by 7.5% by eliminating the need for a mid-day wash. Resulted in fewer defects to consumers and greater efficiency
- Additional manufacturers in all segments requesting in-house seminars and volunteering for scale-up testing of new technologies

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Creating New Opportunities for Dairy Proteins

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**'Protein is the hottest functional food ingredient trend in the United States':
Packaged Facts**

foodnavigator.com

2015 Trends: Pack in the Protein

restaurant-hospitality.com

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Consumers Want To Know

CLEAN: fewer ingredients, more
recognizable ingredients, "no
more than two syllables"

CLEAR:

Fewer ingredients
+ knowing where they came from
+ they are safe
+ minimal processing
+ limited environmental impact

NICHE

INDUSTRY STANDARD

**Clean label turning into industry
norm: study**

Niche no longer: clean labels becoming food industry
standard

- 20% increase in the last 12 months on foods marketing "clean" labels

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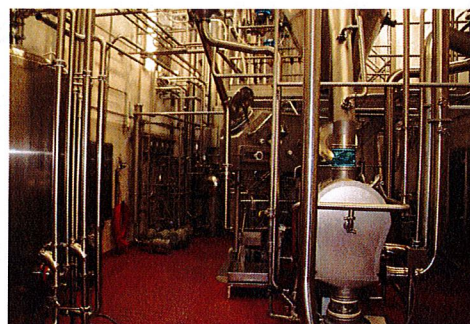
Clean Label Dairy Product Research



- Utilizes Faculty and Pilot Facilities
- Increased Understanding on Process/Function



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Clean Label Outcome from Research



Grade A Nonfat Milk,
Cultures and Sugar

Is Yogurt A Health Food or a Junk Food?	
	Dannon Light & Fit Greek Nonfat Yogurt Blueberry[†]: Cultured Grade A Nonfat Milk [†] , Water, Blueberry Puree, Fructose ^{**} , Modified Corn Starch ^{***} , Natural Flavor, Caffeine, Sucralose, Malic Acid [†] , Potassium Sorbate, Acesulfame Potassium, Sodium Citrate [†] . [†] This yogurt is not organic. ^{**} Ingredient may be derived from or produced with GMOs.
	Yoplait Light Red Raspberry Yogurt[†]: Cultured Grade A Nonfat Milk [†] , Raspberries, Modified Corn Starch [†] , Sugar [†] , Kosher Gelatin, Citric Acid [†] , Tricalcium Phosphate, Natural Flavor [†] , Potassium Sorbate, Acesulfame Potassium, Sucralose, Red #40, Vitamin A Acetate [†] , Vitamin D3 [†] . [†] This yogurt is not organic. ^{**} Ingredient may be derived from or produced with GMOs. ^{***} Synthetic vitamins.
	Activia Greek Orchard Peach Yogurt[†]: Cultured Grade A Nonfat Milk [†] , Peaches, Sugar [†] , Fructose [†] , Water, Modified Corn Starch [†] , Natural Flavor [†] , Pectin, Fruit Juice and Vegetable Juice (for color) [†] , Carrageenan, Sodium Citrate [†] , Lactic Acid [†] , Vitamin D3 [†] , Calcium Citrate [†] . [†] This yogurt is not organic. ^{**} Ingredient may be derived from or produced with GMOs. ^{***} Synthetic vitamins.

More info at FOODBASE.COM

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Industry Activation



**IFT -July 2015
Chicago, Illinois**



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**Hopkins MN
September 22**

Event Objectives:

- Afternoon of Dairy Education Seminars, Tours of Supervalu's Automated Distribution Center, Chairs' Award, Networking, Presentation and Dinner featuring **SUPERVALU's** own private brand products
- *Natural Cheese 101*-Dr. Tonya Schoenfuss
- *Protein: Addressing the Protein Need in Product Formulation*-Mary Wilcox

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Tomorrow's Dairy Consumer Minneapolis-November 10th

Event Objectives:

- Understand more about the Millennial consumer
- Discuss the need for *Trust, Transparency, Sustainability*
- Hear how Taco Bell is changing their marketing tactics to reach this consumer
- Share dairy options and resources that are available for use

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Midwest Dairy Research Forum

Whey Based Ingredient Opportunities

October 13-14, 2015

Rochester, MN



Transfer & Adoption:

Marketplace Accomplishments

- Concepts have been introduced to both mainstream and medical nutrition segments
- Product development efforts are underway at many different companies utilizing new dairy protein ingredients

Manufacturer Success Stories

Over 6 different processors are testing new products and processes to create functional dairy protein ingredients at IDIP

Over 3 different processors are conducting testing/economic feasibility work for large scale manufacture.

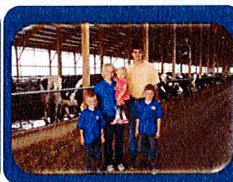
Result: New Uses/New Markets

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Industry's Primary Recommendation:

Pursue a "growth and prosperity" strategy, targeting individual state growth rates at a minimum of maintaining share of the U.S. milk supply while paying producers a nationally competitive milk price.



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Fundamental Questions

- 
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- 1. What dairy products will consumers demand in the future?
 - 2. Do we have the processing capacity to make those products?
 - 3. Will we have the milk supply to fill that processing capacity?
 - 4. Will we have our neighbors' support to grow the dairy value chain from "grass to glass" throughout the Midwest region?



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Current Projects



Market Assessment

- Phase II study on new product opportunities to be completed by end of month



Social License to Operate

- Develop regional and state plans to protect the industry's freedom to operate



Dairy Development

- Review individual state growth targets and Dairy Development plans



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Create & Share=Trust & Sales

Information	Research	Partners	Results
           	 <p>Applications & Technical Support</p>  <p>Milk Powders</p>  <p>Milk, whey, value added ingredients and co-products</p>  <p>Fluid Milk Revitalization</p>  <p>Food Safety and Cheese</p>	       	<p>Drive Innovation</p>  <p>Increase Dairy Exports</p>  <p>Increase Fluid Milk Consumption</p>  <p>Protect Consumer Confidence</p> 

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